In the United States, turfgrass represents a significant component of urban landscapes. These turfgrass areas include residential lawns, commercial plantings, public roadside areas, parks, athletic fields, cemeteries, and golf courses. Using high-resolution photographs in 13 major urban centers, Milesi et al. (2005) estimated a total turfgrass area in the United States of 163,812 km² and suggested that turfgrass represents the single largest irrigated crop in the United States, an area three times larger than that of irrigated corn. Although not all of this turfgrass is subject to high-intensity irrigation management, the majority of it, with the exception of turfgrass grown in wet humid regions, receives at least supplemental water during the peak summer months. However, in the arid West, turfgrass cannot exist in an acceptable state without regular supplemental water. For example, in Las Vegas, NV, rainfall is typically less than 12 cm yr⁻¹, which means that turfgrass grown under golf-course conditions would receive more than 95% of its water requirement via irrigation. On the other hand, in Mobile, AL, the National Weather Service (NOAA, National Climatic Data Center, 2009) reported an average rainfall for the period 1996–2008 of 15 ± 4.6 cm mo⁻¹, which would suggest that only high-maintenance turfgrass might require supplemental water during drier periods.

The amount of irrigation required by turfgrass varies from region to region on the basis of climate, species, water quality, irrigation management, cultural management, and soil type. Christians and Engelke (1994) described the general bioclimatic zones for turfgrass in the United States. Such zones were separated according to their suitability for cool-season and warm-season species. The authors noted that many turfgrass species are being grown in areas for which they are not well suited or environmentally adapted. To compensate for that use, environmental modifications must be made, such as significant increases in irrigation, fertilization, and pesticide applications. Smaller, regional zones are...